

# PATENT ABSTRACTS OF JAPAN

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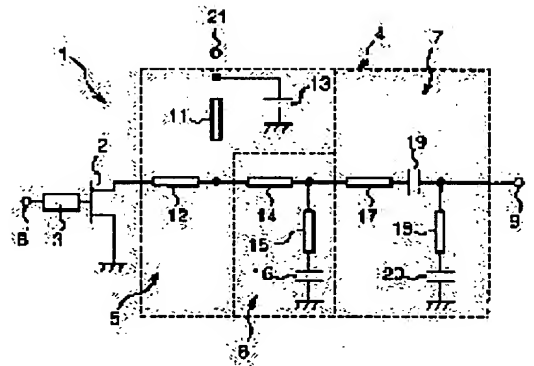
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## (54) HIGH FREQUENCY POWER AMPLIFIER

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To obtain the high frequency power amplifier with an improved efficiency by decreasing its power loss.

**SOLUTION:** Each length of a drain bias line 11 and signal lines 12, 14, 15 is selected so that an output matching circuit 4 acts like an open load with respect to a second harmonic and like a short-circuit load with respect to a third harmonic, for example, a phase of an S11 of an S parameter with respect to the second harmonic ranges between  $-80^{\circ}\text{C}$  and  $140^{\circ}\text{C}$  and a phase of an S11 of an S parameter with respect to the third harmonic ranges between  $160^{\circ}$  and  $220^{\circ}$ . Furthermore, the length of each line is adjusted so that a phase of an S22 of an S parameter with respect to the fundamental wave in an input matching circuit 3 is shifted by a phase of  $+5^{\circ}$  to  $-75^{\circ}$  from a point at which a maximum gain is obtained.



## LEGAL STATUS

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